

ADMIRAL SIR ERASMUS OMMANNEY,
K.C.B., F.R.S.

A WELL-KNOWN figure has been lost to scientific circles by the death of Admiral Sir Erasmus Ommanney, K.C.B., F.R.S., which occurred on December 21, at ninety years of age.

Erasmus Ommanney was born in London so long ago as the year 1814, and entered the Navy in 1826. He became Lieutenant Ommanney in 1835, and at once volunteered to serve under Sir James Ross in the voyage for the relief of a number of missing whalers reported to be caught by the ice of Baffin's Bay, and on the coasts of Greenland and Labrador. The objects of the expedition were successfully carried out, notwithstanding the extreme danger of the navigation during the winter months.

In 1850 he was appointed second in command under Captain Horatio Austin on the Arctic expedition in search of Sir John Franklin; and in August of that year was the actual discoverer of the first winter quarters of Franklin's ships. He also directed an extensive system of sledge journeys, by which the coast of Prince of Wales Land was laid down. After his return from the Arctic he was elected a Fellow of the Royal Society for his services to science.

After his retirement in 1877, he threw himself with zeal into the work of numerous learned societies, of which he was an energetic member. He was a Fellow of the Royal Geographical Society, and had been a member of the council. He was also a Fellow of the Royal Astronomical Society. An active member of the British Association, he had served upon its council, and went with it to Canada in 1884 as treasurer, receiving on that occasion the honorary degree of LL.D. from the McGill University, Montreal.

The funeral took place at Mortlake Cemetery on Tuesday afternoon. Among the wreaths placed upon the coffin was one from the president and members of the Royal Geographical Society.

NOTES.

It is proposed to establish in the University of Liverpool a memorial to Mr. R. W. H. T. Hudson, late lecturer in mathematics, whose brilliant career was so tragically cut short at the end of last September. The memorial will probably take the form of an annual prize in mathematics, to be awarded for distinction in geometry, the subject in which Mr. Hudson's work chiefly lay. For this purpose a sum of 100*l.* would be required. Contributions to the fund should be sent to Mr. Alexander Mair, the University, Liverpool.

DR. J. MACINTOSH BELL, a nephew of Dr. Robert Bell, F.R.S., has just been appointed Government geologist of New Zealand. Dr. MacIntosh Bell has seen much active service on the Canadian Geological Survey, having worked during four seasons under his uncle, the director. In the spring of 1899 he went with Dr. Robert Bell to Great Slave Lake, where he spent the following winter, and in 1900 he was sent to Great Bear Lake, several hundred miles further north. On his return he was employed in 1901 and 1902 as geologist by the Lake Superior Commercial Co., and in 1903 by the Ontario Bureau of Mines.

REPLYING to a vote of thanks, after laying the foundation-stone of the Chelmsford Free Library, School of Art, and Museum on December 21, Lord Rayleigh said that the visit to Stockholm from which he had just returned was of great interest. His colleagues and he received almost a royal

welcome, and at the banquet which formed part of the proceedings it was very much impressed upon them that what Nobel had in view in providing his prizes was to bring scientific men of the various countries together not merely for the advancement of science, but to promote good feeling and the cause of peace between the nations of the world. Lady Rayleigh afterwards distributed the prizes to the students of the local science and art classes.

LORD KELVIN has accepted the nomination of the council for the presidency of the Faraday Society, in succession to Sir Joseph Swan, F.R.S.

THE death is announced of the Rev. J. M. Bacon at the age of fifty-eight. Mr. Bacon had made a number of balloon ascents for scientific purposes, and some of the results of his studies are described in his works "The Dominion of the Air" and "By Land and Sky."

ACCORDING to the *Patria*, negotiations have been entered upon by the Italian Minister of Posts and Telegraphs and the British Postmaster-General with a view to establish wireless telegraphic communication between the stations of Poldhu and Bari.

WE are informed that the constitutional amendment exempting the California Academy of Sciences from further taxation was carried at the election, November 8, by a majority of nearly 11,000.

THE bog-slide reported in several newspapers as having occurred on December 7 between Frenchpark and Castlereagh in the north part of the county of Roscommon, appears now to have come to rest, after invading a village and covering a large area of agricultural land. Local information reaches us to the effect that clefts still remain visible in the bog, but that the hollow formed at the origin of the slide is gradually closing in. The flow is attributed to heavy rain, with which existing means of drainage were unable to cope. Lord de Freyne is erecting huts for the dislodged tenantry, and about twenty men were still engaged at Christmas in clearing the main road from its peaty covering.

ON December 22 the airship *Lebaudy II.* made its thirtieth experiment in aerial direction at Moisson, near Mantes. In these voyages the *Lebaudy II.*, the volume of which has been brought up to 2063 metres, returned each time to the shed which shelters it, after having gone away to distances so great as ten miles. The length of the balloon is 64 metres, and its regular crew consists of three people. Several times, however, it has taken passengers, as many as six persons having ascended at one time. The speed attained by its own propulsion, measured with a registering anemometer, may be estimated at 40 kilometres per hour. The airship has been taken out in wind blowing at 5 or 6 kilometres, and in rain. It has risen to the altitude of 500 metres. The ascent of December 22 was the last of the autumn campaign, eighteen ascents having been made during the months of November and December. During this season experiments were made to decide whether an astronomer aboard an airship can know the precise geographical position of the balloon when he makes his observation. An ascent was made between 1 and 2 a.m. on a foggy morning. In the car had been taken an acetylene searchlight equalling 100,000 lamps of ten candles each, like those at the Exposition of the Grand Palais. The balloon was invisible to persons on the earth, and the earth itself could not be seen by the aeronauts. But the light could easily be distinguished, and its movements

followed. Next year new voyages to considerable distances will be undertaken, like that from Moisson to Paris, or to the Crystal Palace from London. In its last trial the *Lebaudy II.* remained inflated for sixty-four days.

WITH Mr. C. G. Barrett, whose death was announced last week, has disappeared one of the last of the old school of British lepidopterists, contemporary with Doubleday and Newman. The first mention we can find of Mr. Barrett's name is in the list of entomologists in the "Entomologist's Annual" for 1857, but from that time onwards he became a frequent contributor to the *Entomologist's Weekly Intelligence*, and afterwards to its successor, the *Entomologist's Monthly Magazine*, the first number of which appeared in June, 1864, so that the fortieth year of this periodical has been marked by the demise of two out of the seven editors whose names appear on the early numbers of 1904, Robert McLachlan, the last of the original staff who still continued to act, and C. G. Barrett, who joined the staff of that magazine in 1880, and became a member of the Entomological Society of London in 1884. Mr. Barrett was an enthusiastic and very successful collector of British Lepidoptera, and as he held a position in the Excise which involved his being moved from one station to another, he had great facilities for investigating the insects of widely separated localities. Perhaps the most important of his captures was the extremely interesting moth which he obtained on the Hill of Howth, near Dublin, and was named *Dianthoeia Barrettii* after him. Mr. Barrett's contributions to entomology, with one notable exception, were published almost exclusively in magazines, but in 1892 he commenced his great work, "The Lepidoptera of the British Isles," in serial parts, and he had completed the Macro-Lepidoptera at the time of his death. Mr. Barrett's last paper, a description of the larva of *Doryphora palustrella*, Douglas (one of the Tineina), appeared in the *Entomologist's Monthly Magazine* for the present month, so that he may be said to have died in harness.

THE *Standard's* correspondent states (December 26) that the Vienna Veterinary Institute has just opened a laboratory for the study of the diseases of fish, which will be in charge of Prof. Fiebinger.

THE Paris correspondent of the *British Medical Journal* details some of the conclusions of the committee appointed to investigate Dr. Doyen's claims respecting the cause and treatment of cancer (December 24, p. 1720). M. Metschnikoff, one of the committee, states (1) that in culture tubes inoculated by Dr. Doyen with cancerous material in his presence the *Micrococcus neoformans* developed; (2) that the characters of the microbe so obtained agreed with those described by Dr. Doyen as characteristic of the *M. neoformans*; (3) it is not yet possible to report on the specificity or pathogenic characters of the microbe; (4) it is not possible yet to state whether Dr. Doyen's serum has a curative action or no. It will be seen that this report is a very guarded one, and very different from the details published in the daily Press.

WE learn from the *Times* (December 21) that a considerable number of beautifully worked flints have recently been discovered at Culmore, which is said to be in the south of Scotland, but we have been unable to find the locality on maps. The spot where the flints were found has the appearance of having been surrounded by marshy ground, and it is possible that the flint-tools may have belonged to lakelanders. Arrow-heads, scrapers, anvil and hammer stones,

are abundant among the worked flints. The collection has been acquired by Mr. Ludovic Mann, and will be exhibited for a few weeks in the People's Palace, Glasgow.

THE annual conversazione of the Royal College of Science and Royal School of Mines was held at the college as we went to press last week, and was attended by about five hundred guests. The company included Sir Norman Lockyer, Sir Arthur Rücker, Mr. Morant, Prof. Judd (the dean), Prof. Tilden, Prof. Perry, Prof. Callendar, Prof. Gowland, and Mr. G. W. C. Kaye (secretary). There were many interesting exhibits in the various departments in chemistry, physics, astrophysics, mechanics, metallurgy, mining, geology, and biology, under the direction of their respective professors. The Solar Physics Observatory was open by permission of Sir Norman Lockyer, and a kinematograph exhibition was given, while the college company of the Corps of Electrical Engineers showed a searchlight. Dr. W. Watson, F.R.S., delivered a lecture during the evening on radium and twentieth century alchemy.

Spolia Zeylanica for October contains the description by Mr. Boulenger of a new snake of the genus *Aspidura*, and an illustrated account by Mr. J. L. Hancock of the Cingalese representatives of the grasshoppers of the family Tettigidae.

THE October number of the *American Naturalist* is entirely devoted to botanical subjects, even the usual pages of notes being omitted. In the first article Prof. Penhallow completes his account of the anatomy of conifers, in the second Dr. B. M. Davis contributes the fourth instalment of his studies of the plant-cell, while in the third Prof. D. H. Campbell discusses the affinities of the ferns of the groups Ophioglossaceæ and Marsiliaceæ.

At the meeting of the Zoological Society held on December 13 Mr. Rothschild exhibited a wonderful series of mounted skins and skulls of gorillas and chimpanzees, most of which had been set up by Rowland Ward, Ltd. A long paper was also read on this unique collection, in the course of which the author stated that he recognised four different forms of gorilla, two of which constituted species. Unfortunately, in our opinion, he advocated the transference of the name *Simia scyrus*, so long applied to the orangutan, to the chimpanzee. Surely a title to a name ought to become valid after such a long period of unchallenged use.

Two articles from the twentieth volume of the *Journal* of the Imperial University of Tokyo were received by last mail. In the first Mr. T. Fujita discusses the mode of formation of the germinal layers in gastropod molluscs. More general interest attaches, however, to the second, in which Mr. H. Yabe describes a number of cephalopod remains from the Cretaceous rocks of Japan, this being his second contribution to the subject. Most of the species belong to European genera, and the large size of some of the specimens of turrilites is very noticeable. We have also received article 8 from vol. xviii. of the same serial, in which Mr. B. Hayata gives a list of the plants of the order Compositæ found in Formosa.

IN the December number of *Bird Notes and News* the Royal Society for the Protection of Birds records its efforts in regard to the late osprey case in Surrey. It may, however, be asked whether it would not be well to admit that the preservation of such stragglers is a practical impossibility, and that ospreys and motors are incompatible. Similarly, in view of recent letters in the *Field*, the question

as to whether birds are or are not harmful requires discussion on a business footing, altogether apart from sentiment. If they are proved harmful, we can decide whether we will put up with the damage for the sake of the attraction they add to the landscape; but let us abandon attempts to gloss over charges of damage and to defend birds at all costs. The society urges the advisability of establishing a "bird and tree day" throughout the country; possibly an excellent way of developing interest in nature—but this time will show.

WE have received four zoological papers from American serials. The first (from the *Proceedings* of the Boston Natural History Society) contains a list of molluscs from Frenchman's Bay, Maine, by Mr. D. Blaney, while in the second (from the same journal) Mr. W. R. Coe discusses the terrestrial nemertean worms of the genus *Geonemertes* from Bermuda. These worms, it may be remembered, were first discovered, dwelling in company with ordinary earthworms, during the *Challenger* cruise, but the specimens were lost, and no others were ever collected until 1898 and 1901. In the third paper (from the *Proceedings* of the U.S. National Museum) Mr. P. Schmidt re-determines a Japanese fish, while in the fourth (from the *Proceedings* of the American Academy) Messrs. Parker and Starratt record some interesting experiments with regard to the effect of heat on the colour-changes of the American chameleon-iguana (*Anolis carolinensis*).

MESSRS. Jordan, Russell, and Zeit publish details of experiments on the longevity of the typhoid bacillus in water (*Journ. of Infectious Diseases*, i., No. 4, p. 641), from which it appears that under conditions probably closely simulating those in nature the vast majority of typhoid bacilli introduced into a water perish within three or four days. This is rather opposed to the views now generally prevailing, and needs confirmation before it can be absolutely accepted.

At a meeting of the Institute of Mining and Metallurgy held on December 15 Messrs. Thomas and Macqueen read a paper on methods of dealing with dust in the air and gases from explosives in a Cornish mine (Dalcoath). Miners' phthisis is especially due to inhalation of stone dust, and it is found that the use of a water-jet with machine drills entirely prevents dust if used from the commencement of operations and properly directed, a coarse spray being more efficient than a fine one, but is difficult to apply when the drill-holes become deeper than about two feet. James's water blast was found particularly effective for laying the dust caused by shovelling and blasting.

An interim report has been issued by a committee appointed by the British Association to inquire into ankylostomiasis in Britain. The *Ankylostoma* is an intestinal parasite producing serious and sometimes fatal effects. The report states that there are many channels by which the *Ankylostoma* might be introduced into British coal mines (it has been introduced into the Westphalian coal fields and into the Dalcoath tin mine in Cornwall, as already recorded in these columns). The conditions existing in our mines are such that it would probably flourish and become firmly established. Once introduced it is doubtful if it could ever be eradicated, and therefore it is recommended that proper sanitary regulations should without delay be formulated and enforced to prevent infection of the pits.

A REPORT by Drs. Haldane and Wade has been issued by the Local Government Board on the destruction of rats and disinfection on shipboard, with special reference to plague. For destroying rats the burning of sulphur, the

use of liquid sulphurous acid, carbonic oxide, carbonic acid, and the Clayton process are discussed. Carbonic oxide, while very fatal to rats, has no effect on insect vermin and no disinfecting action, and having no odour may be dangerous to man, and may form an explosive mixture with air. Carbonic acid, while fatal to rats, is similarly without lethal effect on vermin, has no disinfecting action, and a large quantity is required, which makes it expensive, but it is less dangerous to man than carbonic oxide. Burning sulphur is tedious and only applicable in empty cabins and holds, but is cheap and fairly effective. Much the same may be said of liquid sulphurous acid, but it is quicker though more costly. The Clayton process consists in burning sulphur in a furnace, the fumes from which are pumped into the holds, &c., and is probably the best of the methods discussed. Properly carried out it is fatal to rats and all vermin, has considerable disinfecting and penetrative power, is not likely to cause accident as its odour is so marked, but it damages certain articles, especially if damp, and does not diffuse well in a closely packed hold.

THE area planted with cotton this season in the West Indies is estimated in the *Agricultural News*, November 19, at from eight to ten thousand acres, excluding Carriacou, where four thousand acres were planted mostly with Marie Galante cotton. Of this amount Barbados and St. Vincent each have sixteen hundred acres under cotton, and in St. Kitts the acreage exceeds two thousand acres. The crops generally are much healthier than in the previous year, and an output of about 5000 bales may be expected.

THE *Quarterly Record* of the Royal Botanic Society of London for the second quarter of this year contains an account of the horticultural exhibition held in June, and most of the papers read at the conferences have been published. The educational section attracted a number of speakers and visitors when nature-study and horticulture formed the subjects of addresses by Sir George Kekewich, Mr. F. Verney, and others. At the forestry conference Prof. W. R. Fisher delivered the address, in the course of which he discussed the selection of seeds of forest trees, and advocated the formation of experimental stations in order to study the suitability of different trees for particular districts and soils.

THE morphological nature of the ovary in the genus *Cannabis* has engaged the attention of many botanists, including Payer, C. B. Clarke, and Briosi and Tognini; finally, Dr. Prain, having been deputed by the Government of India to report upon the cultivation of *ganjá*, has upon the evidence of certain abnormal forms contributed a new explanation in No. 12 of the *Indian Scientific Memoirs*. Previously the views had been expressed that the pistil consists either of a single carpel, or of two carpels of which the anterior alone is developed, and bears an ovule; the bicarpellary nature of the ovary is, in Dr. Prain's opinion, fully borne out by specimens showing phyllody of the gynœcium, but it is the posterior carpel which is fertile. With respect to the character of the declinism of the flower, this is shown to be primitive and not vestigial.

WE have received from the Rev. J. de Moidrey, S.J., of the Zi-ka-wei Observatory, an interesting and useful memoir on the climate of Shanghai, based upon observations made between 1873 and 1902. The coldest weather occurs about the beginning of February, and the warmest about August 1, nearly forty days after the solstices. The mean temperature for thirty years at Zi-ka-wei was 59°·2 F., and the mean range 43°·2. The extreme readings were:—maximum 102°·9, minimum 10°·2. A variation of the

climate is not apparent. The average monthly relative humidity is 78 per cent.; the annual variation is insignificant, averaging only 4 per cent. The average yearly rainfall is 43.6 inches; June is preeminently the rainy month, both for frequency and amount, while December is the driest month. The paper contains useful remarks upon the cyclones experienced over the China seas.

WE have received a copy of "Meteorology in Mysore" for 1903, being the results of observations at Bangalore, Mysore, Hassan, and Chitaldrug; these observing stations lie at the corners of a quadrilateral comprised between $12^{\circ} 18'$ and $14^{\circ} 14'$ N. latitude and $76^{\circ} 10'$ and $77^{\circ} 36'$ E. longitude, Bangalore being 190 miles west of and 3000 feet higher than Madras. The results, including the means for eleven years, 1893-1903, have been very carefully worked out by the director, Mr. John Cook, and contain some interesting features. The highest reading for eleven years of air temperature in shade was 103° at Chitaldrug in April 1901 and 1903, and the lowest $42^{\circ} \cdot 7$ at Hassan in December, 1895. The mean relative humidity varied from 57 per cent. to 62 per cent., but extreme dryness was occasionally experienced, the humidity varying between 4 per cent. and 6 per cent. Rainfall is fairly uniform throughout the province, varying from $26\frac{1}{2}$ to $37\frac{3}{4}$ inches per annum. The value of the report would be enhanced by a key-map of Mysore and surrounding districts.

IN the *Sitzungsberichte* of the Vienna Academy, cxiii., 3 and 4, Dr. Fritz Hasenöhl discusses the laws of reflection and refraction of light as applied to a body which is moving relative to the ether, in connection with the thermodynamical aspects of the principle of reciprocity, and also the variations in the dimensions of matter due to motion through the ether.

IN No. 86 of the *Communications* from the Leyden Physical Laboratory Dr. H. Kamerlingh Onnes and Dr. H. Happel discuss the application of Gibbs's volume-energy-entropy model to the representation of the continuity of the liquid and gaseous states on the one hand, and the various solid aggregations on the other. For this purpose models have been constructed for an ideal substance, showing the continuity of the solid and liquid as well as of the liquid and gaseous states.

A SERIES of experiments on the influence of abnormal position upon the motor impulse is described in the *Psychological Review* for November 1 by Mr. Charles Theodore Barnett. Without going into the theoretical aspect of these investigations, we notice that the author refers to the well known puzzle of drawing a rectangle and its diagonals in front of a looking-glass, and the difficulty of playing the piano with crossed hands, as Beethoven so often requires in his sonatas, is another illustration which suggests itself.

PART I. of vol. xlviii. of the *Transactions* of the Institution of Engineers and Shipbuilders of Scotland contains a paper by Mr. F. J. Rowan on the smoke problem, which is of especial interest on account of the recent inquiry by Sir John Ure Primrose at the sanitary congress in Glasgow into the connection of smoke with the production of rain and fogs in large cities. It is pointed out that although domestic fires are principally responsible for atmospheric pollution in a large town, only the smoke issuing from factory chimneys is subject to municipal control, and that many kinds of industrial furnaces, other than those used for raising steam, are employed in operations of such a nature that they cannot but necessarily produce large

volumes of smoke. In dealing with the question of the prevention of smoke from furnaces used in connection with steam boilers, the employment of smoke-consumers, smoke-washers, and similar appliances is condemned, and a system of gas firing is advocated. Mr. Fyfe, the sanitary inspector of Glasgow, in the course of the discussion of the paper, stated that although the Public Health Act empowered prosecution in the case of "any chimney (not being the chimney of a private dwelling house) sending forth smoke in such quantity as to be a nuisance," it was customary in Scotland, under the Burgh Police Act, not to proceed against other kinds of furnaces than those used for heating boilers. His own experience had convinced him that gas firing was not absolutely necessary in such cases, but that by means of a suitable and inexpensive smoke-consumer, consisting of ignited jets of producer gas, all the smoke could be got rid of, and an additional supply of heat given to the boiler.

SAMPLES of an improved form of crucible lid have been sent to us by Messrs. J. J. Griffin and Sons. It is made slightly convex towards the crucible, and has been designed to obviate the loss of substance which so readily occurs in simple gravimetric experiments, such as the conversion of copper into copper oxide by means of nitric acid, when the ordinary form of crucible lid is employed.

ACCORDING to a paper by M. Bertrand in the *Comptes rendus* (No. 20, p. 802) mountain ash berries not only contain the alcohol sorbitol, but an isomeric alcohol, sorbierite, is also present. To obtain it the sorbitol is completely converted into sorbose by the action of the sorbose bacterium, and the sorbose is removed by crystallisation. Sorbierite has been obtained from the mother liquor in the form of deliquescent crystals. That the new alcohol is hexahydric has been established by the cryoscopic determination of its molecular weight, and by the preparation and analysis of the di- and tri-benzoic acetals.

A VERY interesting paper dealing with the primary formation of optically active substances in nature is contributed by Dr. A. Byk to the *Zeitschrift für physikalische Chemie* (vol. xlix. p. 641). It is shown in an indirect experimental manner that it is possible to effect the resolution of racemic substances by a purely physical agent—circularly polarised light. The reflection of the plane polarised rays of sunlight from the surface of water under the influence of the earth's magnetism is supposed to give rise to a predominating quantity of one form of circularly polarised light, and this is the cause which determines the production of optically active substances in the photochemical processes taking place in animal and plant life.

WE have received Williams and Norgate's "International Book Circular." An article on some contemporary foreign chemists, illustrated by twenty portraits, is contributed by Dr. M. O. Forster.

PROF. M. W. TRAVERS'S work on the experimental study of gases has been translated into German by Dr. T. Estreicher, and the translation has been published by Messrs. F. Vieweg and Son, Brunswick.

AN authorised translation, into German, of Prof. J. J. Thomson's lectures on "Electricity and Matter," reviewed in *NATURE* of May 26 (vol. lxx. p. 73), has been made by Herr G. Siebert, and published by the house of F. Vieweg and Son, Brunswick. The work forms the third volume of a series of monographs issued under the general title "Die Wissenschaft."